

Form OGG100 (1/80)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS
(METRIC)

A.P.I. No. 097-90201

WELL SUMMARY REPORT - GEOTHERMAL

Operator Union Oil Company of California		Well Name and Number D.X. State 4596-30 Plug and Abandonment				
Field Geysers Geothermal		County Sonoma	Sec. 6	T. 11N	R. 8W	B.&M. M.D.
Location (property or section corner, or street center lines) 78.88m North and 127375m East of the SW corner of Section 6, T11N, R8W, M.D.B.&M.			Elevation of ground (meters above sea level) 986.2			
Commenced drilling 11-15-76	Total depth (meters) 2910.1	Plugged depth (meters) N/A	Depth measurements taken from top of: _derrick floor _rotary table <u>XX</u> kelly bushing			
Completed drilling 01-01-77	Geologic formation and age at total depth Franciscan-Jur., Cret.		which is 8.53 meters above ground			
Geologic marker(s)			Depth (meters)			
Commenced producing 02-14-77						
Junk			NONE			

DATE	NONE		PRODUCTION TEST DATA								
	STATIC TEST (shut-in well head)		Total Mass Flow Data					Separator Data			
	Temp °C	Press bars	kg/hr	Temp °C	Press bars	Enthalpy K-GAL/Kg	Orifice	Water kg/hr	Steam kg/hr	Press bars	Temp °C
12-28-76	183	21.37	--	--	--	K-GAL/Kg					
12-28-76			56,675	183	9.10	662.13	12.7cm				
12-28-76			50,781	179	8.20	661.18	12.7cm				
12-28-76			49,874	178	8.14	661.09	12.7cm				
12-28-76			49,874	178	8.14	661.09	12.7cm				

CASING RECORD (present hole)									
Size of Casing (API)	Top of Casing (m)	Depth of Shoe (m)	Weight of Casing (kg)	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Drld (cm)	Volume of Cement (cu.m)	Depth of Cementing i. Through Perforations (m)
50.8 cm	Surf.	81.68	140.1	New	seamless	H-40	66.04	17.3	N/A
34 cm	Surf.	460.41	81.2	New	seamless	K-55	44.45	45.89	N/A
24.4 cm	396.5	1315.20	59.6	New	seamless	K-55	31.12	42.38	N/A

PERFORATED CASING (size, top, bottom, perforated intervals, size and spacing of perforation and method)

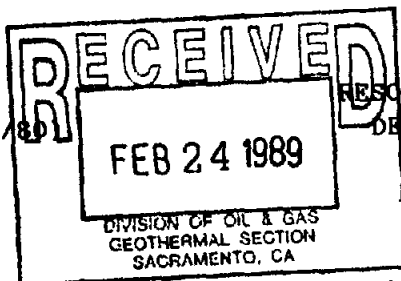
NONE

Was analysis of effluent made?	Electric Log Depths	Temperature Depths
YES NO <u>XX</u>	NONE	NONE

In compliance with Section 3735, Chapter 4, Division 3 of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

NAME Joel P. Robinson	TITLE Agent	
ADDRESS 3576 Unocal Place	CITY Santa Rosa	ZIP CODE 95401
TELEPHONE NUMBER (707) 545-7600	SIGNATURE <i>Joel P. Robinson</i>	DATE 2/14/89

File this report in duplicate with the appropriate geothermal district office.



RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

A.P.I. No. 097-90201

DIVISION OF OIL AND GAS
(ENGLISH)

WELL SUMMARY REPORT - GEOTHERMAL

Operator Union Oil Company of California		Well Name and Number DX State 4597-30 Plug and Abandonment				
Field Geysers Geothermal		County Sonoma	Sec. 6	T. 11N	R. 8W	B.&M. M.D.
Location (property or section corner, or street center lines) 258.8' North and 4179.17' East of the SW corner of Section 6, T11N, R8W, M.D.B.&M.					Elevation of ground (feet above sea level) 3236	
Commenced drilling 11-15-76	Total depth (feet) 9548'	Plugged depth (feet) N/A	Depth measurements taken from top of: _derrick floor _rotary table <u>XX</u> kelly bushing			
Completed drilling 01-01-77	Geologic formation and age at total depth Franciscan-Jur., Cret.		which is 28 feet above ground			
Commenced producing 02-14-77			Geologic marker(s)		Depth (feet)	
Junk NONE			NONE		N/A	

DATE	STATIC TEST (shut-in well head)		PRODUCTION TEST DATA								
			Total Mass Flow Data					Separator Data			
	Temp °F	Press psi	lbs/hr	Temp °F	Press psi	Enthalpy	Orifice	Water lbs/hr	Steam lbs/hr	Press psi	Temp °F
12-28-76	361	310	--	--	--						
12-28-76			125,000	361	132		5"				
12-28-76			112,000	354	119		5"				
12-28-76			110,000	352	118		5"				
12-28-76			110,000	352	118		5"				

CASING RECORD (present hole)									
Size of Casing (API)	Top of Casing (feet)	Depth of Shoe (feet)	Weight of Casing (lbs)	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Drld (")	Volume of Cement (cu. ft.)	Depth of Cementing Through Perforations (feet)
20"	Surf.	268	94	New	seamless	H-40	26	610	N/A
13-3/8"	Surf.	1510	54.5	New	seamless	K-55	17.5	1620	N/A
9-5/8"	1300	4315	40	New	seamless	K-55	12.25	1496	N/A

PERFORATED CASING (size, top, bottom, perforated intervals, size and spacing of perforation and method)

NONE

Was analysis of effluent made?	Electric Log Depths	Temperature Depths
YES NO <u>XX</u>	NONE	NONE

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TELEPHONE NUMBER (707) 545-7600	SIGNATURE <i>Joel Robinson</i>	DATE 2/14/89	

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UNION OIL COMPANY OF CALIFORNIA
GEOTHERMAL DIVISION

WELL RECORD

LEASE	DX State	SPUD	P&A
WELL #	4596-30 Plug and Abandon	DATE	DATE 12/17/88
FIELD	Geysers	CONTRACTOR	Artic Coiled Tubing
LOCATION	2558.8' North and 4179' East of the SW corner of Section 6, T11N,, R8W, M.D.B.&M.	RIG #	
B.H.L.	926' North and 39' East of surface location	ELEVATIONS: GROUND	3236'
DEPTH: TD	9548 TVD 9431 ETD P&A	K.B. TO GROUND	N/A
APPROVED	<i>Serry Hamblin</i>	K.B. TO LOWER CASING HEAD	N/A
		TYPE WELL: EXPL.	DEV. XX
		OBSV	STM INJ.
		HOT WTR	DRY HOLE
		COMPANY SUPERVISORS	Furry

SIZE	WEIGHT	GRADE	CASING RECORD THREAD	TOP	BOTTOM	REMARKS
20"	94#	H-40	Buttress	surf.	268'	cemented
13-3/8"	54.5#	K-55	Buttress	surf.	1510'	cemented
9-5/8"	40#	K-55	Buttress	1300	4315'	cemented

WELL HEAD ASSEMBLY			
MAKE:	CASING HEAD	EXPANSION SPOOL	HANGER SPOOL
None:	Plug and Abandonment marker	placed on 13-3/8"	XO SPOOL casing.
TYPE:			
SERIAL NO.:			
DESCRIPTION:			
SIZE			
I.D.			
LENGTH			
PRESS. RATING (PSI)			

VALVES			
MAKE:	MASTER	CASING HEAD	EXPANSION SPOOL
None			SWAB
TYPE:			
SERIAL NO.:			
SIZE & I.D.:			
PRESS. RATING (PSI)			

STEAM ENTRIES:	PSI	PSI	PSI
DEPTH	INCREASE	DEPTH	INCREASE
4640	20#	8303	45#
5905	70#		

PERFORATIONS			
PERFORATED LINER:	FROM	TO	BLANK
PERFORATION DESIGN	N/A		

TEST DATA:	ORIFICE SIZE:
TEST DATE	5
12-28-76	POUNDS/HOUR
WHP 120 psi	110,000 #/hr
BLP 118 psi	
TEMP 353°F	

ACCUTUBE TEST DATA:					
TEST DATE	WHP	TEMP	POUNDS/HOUR	ACCUTUBE SIZE	
N/A	measured				
	adjusted	150	N/A		
	measured				
	adjusted	150	N/A		

REMARKS: Howco EZSV at 2400'. Cement plug #1 from 2400' to 2162'. Plug #2 from 1400' to 1222'. Plug #3 from 200' to surface.

